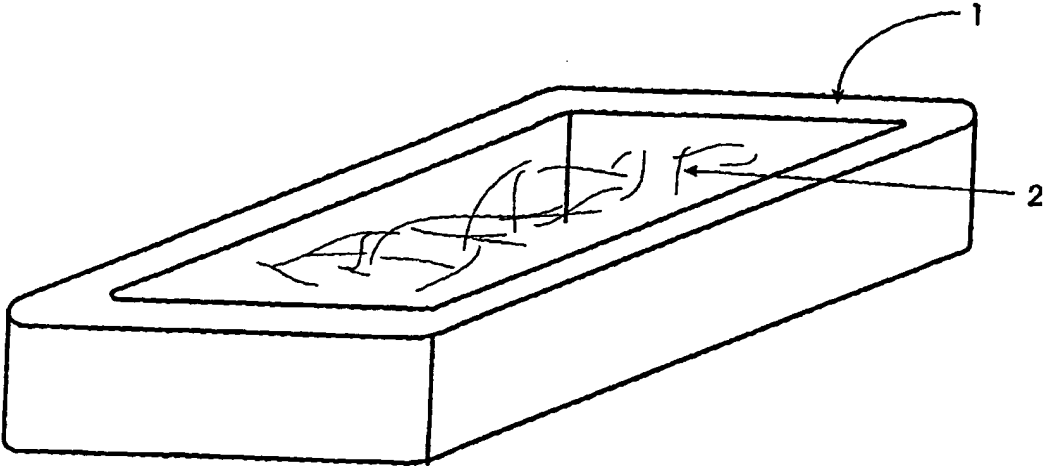


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| (51) International Patent Classification ⁷ : A61K 7/00 | A2 | (11) International Publication Number: WO 00/67704 (43) International Publication Date: 16 November 2000 (16.11.00) |
| (21) International Application Number: PCT/GB00/01778 (22) International Filing Date: 10 May 2000 (10.05.00) (30) Priority Data: 9910823.5 10 May 1999 (10.05.99) GB (71) Applicant (for all designated States except US): LUSH LIMITED [GB/GB]; 29 High Street, Poole, Dorset BH15 1AB (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): CONSTANTINE, Mark [GB/GB]; 29 High Street, Poole, Dorset BH15 1AB (GB). CONSTANTINE, Margaret [GB/GB]; 29 High Street, Poole, Dorset BH15 1AB (GB). AMBROSEN, Helen [GB/GB]; 29 High Street, Poole, Dorset BH15 1AB (GB). (74) Agent: STURT, Clifford, Mark; Miller Sturt Kenyon, 9 John Street, London WC1N 2ES (GB). | | (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i> |
| (54) Title: CONTAINERS FOR COSMETIC PRODUCTS AND THE LIKE | | |
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| (57) Abstract <p>A container suitable for cosmetics, fragrances and the like wherein the container is formed of a solid material comprising a mixture of sodium bicarbonate and an acid or is formed of a soap. Preferably the acid is citric acid or is in the form of cream of tartar mixed with a surfactant. A solid material comprising a mixture of sodium bicarbonate and citric acid will effervesce strongly when immersed in water and dissolve or disperse quickly. The solid material thus readily provides a product such as bath salts or the like. The purchaser therefore receives two products and when the cosmetic or fragrance product or the like has been used, disposal of the container is easy and at the same time useful. Adverse impact on the environment is thus significantly reduced. Similar advantages are obtained with the other embodiments.</p> | | |

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CONTAINERS FOR COSMETIC PRODUCTS AND THE LIKE

The present invention relates to containers for cosmetics, fragrances and the like.

Herein the expression "cosmetic(s)" means any preparation(s) for application to the human body for beautifying, preserving, or altering the appearance or for cleansing, colouring, conditioning, or protecting the skin, hair, nails, lips, eyes or teeth. As such the expression encompasses preparations sometimes referred to as toiletries, an example of which is shaving cream.

Herein the expression "fragrance(s)" means any preparation(s) containing perfumes or scents, which may be applied to the human body or a carrier material. The expression includes Pot-Pourri and similar such products.

Glass containers have for decades, if not centuries, been easily mass-produced and have conventionally been considered ideal for the storage of cosmetic products, fragrances and the like. Ceramics have been used, and are still used, in the same way. Developments in the plastics industry have also provided polyvinyl chloride, polypropylene, polyethylene, and polystyrene as packaging materials for cosmetics. Plastics are often produced in the form of trays, bags, bottles and boxes, through thermoforming and injection- or blow-moulding processes. Collapsible plastic tubes are also widely used to hold cosmetics and the like.

Usually, the above mentioned conventional containers are further packaged in cardboard cartons. Cardboard cartons are light in weight, inexpensive and can be easily manufactured, printed, and stored. In particular cardboard cartons meet the conventionally perceived need for ease of labelling.

It is also conventional that the containers and packaging should be designed for ease of use of sophisticated mechanised processes for filling the containers and applying the packaging.

Little thought has previously been given to the question of the disposal of the containers after use. However, there is an increasing awareness of environmental issues particularly relating to the disposal of containers.

The present invention has been made against this background.

According to a first aspect of the present invention there is provided a container suitable for cosmetics, fragrances and the like wherein the container is formed of a solid material comprising a mixture of sodium bicarbonate and an acid.

According to a second aspect of the present invention there is provided a container suitable for cosmetics, fragrances and the like wherein the container is formed of a solid material comprising a mixture of sodium bicarbonate, an acid, which may be in the form of cream of tarter, and a surfactant.

According to a third aspect of the present invention there is provided a container suitable for cosmetics, fragrances and the like wherein the container is formed of a solid material comprising a soap.

Embodiments of the present invention will now be described by way of example only and with reference to the accompanying drawing, in which:

Figure 1 is a schematic perspective view illustrating an embodiment of the present invention.

A solid material comprising a mixture of sodium bicarbonate and citric acid will effervesce strongly when immersed in water and dissolve or disperse quickly. Such a material is known for use as bath salts and the like. Such bath salts and the like have been manufactured as products which have been placed in containers and packaging in a conventional manner. In stark contrast, the present invention according to a first aspect provides for the product to be used as a container for another, separate product such as a cosmetic or fragrance product. The purchaser thus receives two products and when the cosmetic or fragrance product or the like has been used, disposal of the container is easy and at the same time useful. Adverse impact on the environment is thus significantly reduced. The use of an effervescent material as a container for packaging other products can also mitigate the type of environmental pollution created during the production of conventional packaging materials.

Figure 1 is a schematic perspective view illustrative of an embodiment of the present invention and shows a rectangular container (1) containing a product (2). A

mixture of sodium bicarbonate and citric acid can be used to form a paste which hardens into a solid over a period of a few hours. The paste can readily be moulded into a wide variety of shapes and sizes so as to accommodate the desired cosmetic or fragrance product. Typically, the paste may be moulded into heartshape, square, triangle, oval and oblong container shapes. These containers may be one part open containers, as shown in the accompanying drawing, (beneficial for display of the product in a shop) or may be formed in two or more parts which are held together so as to enclose the cosmetic product or the like. The material of the container is intended to be used as bath salts or the like and the container can, if necessary, be broken with the hands to form smaller pieces for such use. The material can be shaped to provide appealing novelty items.

The mixture of sodium bicarbonate and citric acid can be supplemented, for example by the addition of colouring and/or perfume, so as to increase the appeal thereof both as the material of the container and when dissolved in bath water.

A wide range of cosmetics, fragrances, toiletries and the like can be contained within a container according to the present invention, for example Pot Pourri and soaps. The visual impact of cosmetic products, fragrances and the like in packaging comprising effervescent material is very effective. The striking colours, attractive scents and novelty of the packaging are very appealing and contribute greatly to the ingenuity of this invention.

An example of a suitable material for the container according to the first embodiment is as follows:

Ingredient

% by weight

| | |
|---------------------|---------|
| Bicarbonate of Soda | 60 - 80 |
| Citric Acid | 20 - 35 |
| Colour | 0 - 1 |
| Perfume | 0 - 4 |

The present invention is not limited to the use of citric acid, other forms of organic acids, and preferably plant acids, being considered equally applicable.

As a variation of the above described embodiment, the material of the container comprises a solid material formed of sodium bicarbonate, an acid, which may be in the form of cream of tartar, and a surfactant. Although in this aspect the invention relates to surfactants for use in contact with the human or animal body generally, a description will be given in relation to a bubble bath product.

Conventionally bubble bath is a liquid which is sold in a range of containers often, for example, made of a rigid or semi-rigid plastics material. The provision of the container adds significantly to the cost of the product and environmental pollution is caused by the disposal of the empty containers.

It has surprisingly been found that the simple mixture of conventional liquid bubble bath with sodium bicarbonate and cream of tartar produces a relatively stable solid form product. The product is remarkably stable, for example, in not rapidly reacting with water in the atmosphere at normal indoor humidity levels.

The product resulting from the mixture of cream of tartar and sodium bicarbonate has very different in characteristics from those of a citric acid and sodium bicarbonate mixture known from conventional effervescent bath tablets and the like. A mixture containing sodium bicarbonate and citric acid will effervesce strongly when immersed in water and dissolve quickly. That is, they are highly unstable in the presence of water, as is required by their intended use. It is therefor highly surprising that a mixture consisting of sodium bicarbonate and cream of tarter provide a solid material which is highly stable. It is even more surprising that the formation of a stable solid material can be retained when a conventional liquid bubble bath is added to the cream of tartar and sodium bicarbonate mixture. Such a product can thus be used in the same manner as the product of the first embodiment, and provide the same advantages when used as a container.

A mixture of 60 % sodium bicarbonate, 30% cream of tarter and 10% surfactant forms a paste which hardens into a solid over a period of a few hours. The resultant solid material can be broken with the hands and thus small pieces of a solid bar of bubble bath can be broken –off and added to a bath as required. The material is thus in stark contrast to the known effervescent bath tablets which disintegrate if an attempt is made to break-off small pieces in the manner just described.

As mentioned above, in preparation the product is in the form of a paste which subsequently hardens in to a stable solid. The final product can thus very easily be formed in many useful and/or novelty shapes. Moreover, there is no requirement for a rigid plastics container; which reduces costs and avoids environmental pollution caused by the disposal of empty containers.

One example of the relative ratios of the components is given above. These can of course be varied, the requirement being only that a useable solid form product results. Generally it appears preferable for the sodium bicarbonate to constitute 50% to 60 % of the initial mixture, cream of tartar 25% to 30% and surfactant 10% to 25%. Small amounts of additives may be included, such as a fragrance and/or colourant.

An example of a suitable material for the container according to the second embodiment is as follows:

| <u>Ingredient</u> | <u>% by weight</u> | | |
|---------------------|--------------------|---|------|
| Bicarbonate of Soda | 30 | - | 65 |
| Cream of Tartar | 15 | - | 32.5 |
| Surfactant | 2.5 | - | 55 |
| Colour | 0.05 | - | 1 |
| Fragrance | 1 | - | 5 |

Although the above description of the second embodiment has been of a solid bubble bath as an example of a surfactant, it will be appreciated that this aspect of the invention is equally well suited to other surfactants/uses. As specific examples mention is made of replacement of the conventional liquid bubble bath by conventional: shampoos, shower gels, facial washes etc. Thus, the surfactant will normally be a foaming agent.

Cream of tartar is readily available and has been used in the above examples for ease of reference. Cream of tartar is of course a form of tartaric acid, itself also known as dihydroxybutanedioic acid, a dicarboxylic acid and one of the most widely distributed of plant acids. Cream of tartar is a common name for potassium hydrogen tartar. Other common

names include Crystals of Argolis. The substance is usually obtained from by-products of wine fermentation. In partially purified form, tartar was known to the ancient Greeks and Romans and the free acid was first isolated in 1769. It's use with a surfactant is, however, not known to have been previously proposed. The present invention is not limited to the use of cream of tartar, other forms of organic acid being considered equally applicable.

Beneficial additives can include one or more essential oils. Colouring additives can also be used to provide not only a general aesthetic appeal but also marketing possibilities by incorporating a brand name or the like with an effect similar to the lettering in edible rock or candy. This can be achieved by moulding the letters from a paste incorporating a colouring additive and then moulding the paste of the main body around the individual letters.

According to a third aspect of the present invention there is provided a container suitable for cosmetics, fragrances and the like wherein the container is formed of a solid material comprising a soap. A container formed of a soap can provide similar advantages as those described above in relation to other embodiments of the invention.

An example of a suitable material for the container according to the third embodiment is as follows:

| <u>Ingredient</u> | <u>% by weight</u> | | |
|----------------------|--------------------|---|----|
| Water | 10 | - | 35 |
| Propylene Glycol | 10 | - | 35 |
| Glycerine | 10 | - | 35 |
| Sodium Stearate | 3 | - | 5 |
| Vegetable Soapflakes | 20 | - | 45 |

| | | | |
|-----------|---|---|---|
| Colourant | 0 | - | 5 |
| Fragrance | 0 | - | 5 |

In the above list of ingredients, the water may be in the form of infusion or decoction and may contain fruit juices, herbs and clays. The propylene glycol is a humectant used to dissolve the sodium stearate and these together provide the solid nature of the container. The glycerine may in part or in whole replace the propylene glycol

CLAIMS

1. A container suitable for cosmetics, fragrances and the like wherein the container is formed of a solid material comprising a mixture of sodium bicarbonate and an acid.
2. A container as claimed in claim 1, wherein the acid is citric acid.
3. A container as claimed in claim 1 or claim 2 and prepared from a mixture including 60% to 80% by weight of sodium bicarbonate.
4. A container as claimed in any preceding claim and prepared from a mixture including 20% to 35% by weight of citric acid.
5. A container as claimed in claim 1, wherein the solid material is a surfactant product for use in contact with the human or animal body, the product comprising cream of tartar, sodium bicarbonate and a surfactant.
6. A container as claimed in claim 1, wherein the solid material is a surfactant product for use in contact with the human or animal body, the product comprising dihydroxybutanedioic acid, sodium bicarbonate and a surfactant.
7. A container as claimed in claim 1, wherein the solid material is a surfactant product for use in contact with the human or animal body, the product comprising a dicarboxylic acid, sodium bicarbonate and a surfactant.

8. A container as claimed in any of claims 5 to 7, wherein the surfactant product is prepared from a mixture including 50 % to 60% by weight of sodium bicarbonate.
9. A container as claimed in any of claims 5 to 8, wherein the surfactant product is prepared from a mixture including 10 % to 25% by weight of surfactant.
10. A container as claimed in any of claims 5 to 9, wherein the surfactant product is prepared from a mixture including 25 % to 30% by weight cream of tartar.
11. A container as claimed in any of claims 5 to 10, wherein the surfactant product is a bubble bath.
12. A container as claimed in any of claims 5 to 10, wherein the surfactant product is a shampoo.
13. A container as claimed in any of claims 5 to 10, wherein the surfactant product is a shower gel.
14. A container as claimed in any of claims 5 to 10, wherein the surfactant product is a facial wash.
15. A container suitable for cosmetics, fragrances and the like wherein the container is formed of a solid material comprising a soap.

16. A container as claimed in claim 15, wherein the solid material further comprises sodium stearate, water and at least one of propylene glycol and glycerine.
17. A container as claimed in claim 15 or claim 16, wherein the percentage by weight of soap is in the range 20 to 45 percent.
18. A container as claimed in any preceding claim wherein the said mixture further includes one or more additives.
19. A container as claimed in claim 18 including a fragrance as an additive.
20. A container as claimed in any preceding claim and further including a colouring additive providing lettering or the like in the product.

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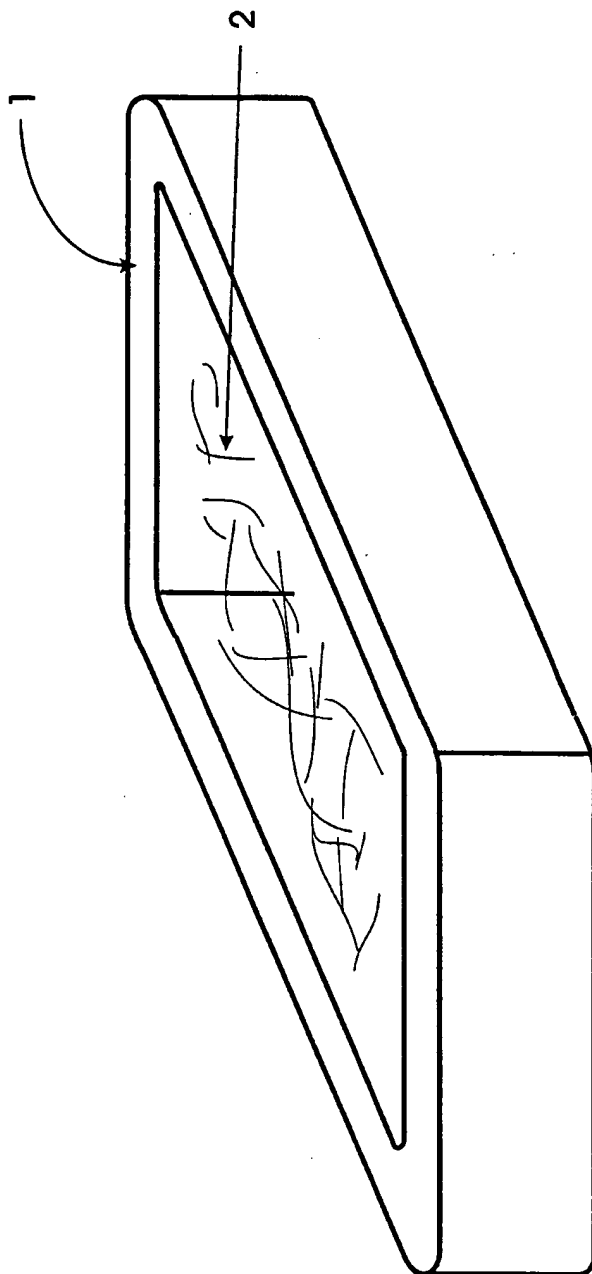


Figure 1